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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,881	03/04/2002	Bor-Jye Liang	BHT-3092-274	1973

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FALLS CHURCH, VA 22041

EXAMINER

GREENE, JASON M

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 02/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,881

Applicant(s)

LIANG, BOR-JYE



Examiner

Jason M. Greene

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15 and 18-28 is/are rejected.
- 7) ☒ Claim(s) 16, 17, 29 and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

Drawings

1. The proposed drawing corrections filed 31 October 2003 are acceptable.
Corrected drawings are required in response to this Office action.

Response to Arguments

2. Applicant's arguments with respect to claims 15 and 18-28 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 15, 18, 19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith, Jr.

With regard to claim 15, Smith, Jr. discloses a method for using an anti-pollution device for exhaust comprising the steps of inserting a plurality of filtering materials (79) into an inner filtering chamber (28) of a housing and forming a plurality of clearances between the plurality of filtering materials, connecting an inlet hole in the housing to an inlet pipe (11), connecting an outlet hole in the housing to an outlet pie (7), inserting exhaust into the inner filtering chamber of the housing through the inlet pipe connected to the inlet hole in the housing, filtering out contaminated particles in the exhaust by forcing the exhaust through the plurality of clearances formed by the plurality of filtering materials in the inner filtering chamber, exhausting treated exhaust from the inner filtering chamber of the housing through the outlet pipe connected to the outlet hole in the housing, and removing contaminated particles from the housing through a dust collection hole (91) in a bottom of the inner filtering chamber of the housing in Figs. 1-4 and col. 4, line 18 to col. 9, line 6. Specifically, a liquid cleaning agent or compressed air is seen as being introduced into the upper clean out plugs (91) and allowed to drain by gravity out the lower clean out plugs. See col. 7, lines 40-60.

With regard to claims 18 and 19, Smith, Jr. discloses the plurality of filter materials being titanium shavings of irregular size and thickness in col. 7, lines 8-12.

With regard to claim 21, Smith, Jr. teaches introducing the compressed air or liquid cleaning agents to reactivate the catalytic surfaces in col. 7, lines 52-56.

Therefore, the filtering materials are seen as inherently having a catalyst convert agent.

5. Claims 22, 23, and 26-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith, Jr.

With regard to claim 22, Smith, Jr. discloses an anti-pollution device for exhaust comprising a housing having an inner filtering chamber (28) formed in a hollow interior thereof, an inlet hole connected to an inlet pipe, an outlet hole connected to an outlet pipe, and a dust collection hole (91) in a bottom of the inner filtering chamber for removing contaminated particles from the housing, and a plurality of filtering materials (79) inserted into the filtering chamber of the housing and forming a plurality of clearances therebetween, such that exhaust insert into the inner filtering chamber through the inlet pipe is filtered through the plurality of clearances formed by the plurality of filtering materials in the inner filtering chamber to remove contaminated particles, treated exhaust is released from the inner filtering chamber through the outlet pipe, and contaminated particles are removed through the dust collection tube in Figs. 1-4 and col. 4, line 18 to col. 9, line 6.

With regard to claim 23, Smith, Jr. discloses the inlet hole and the outlet hole each including a length of pipe (7) in Fig. 1.

With regard to claim 26, Smith, Jr. discloses introducing compressed air into the housing to clean the filtering materials in col. 7, lines 40-60. Therefore, Smith, Jr. is seen as inherently comprising an ash blow device.

With regard to claims 27 and 28, Smith, Jr. discloses the plurality of filter materials being titanium shavings of irregular size and thickness in col. 7, lines 8-12.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith, Jr. in view of Bois.

Smith, Jr. does not disclose the method including the step of controlling the housing with a relief valve or temperature controller.

Bois discloses a similar method wherein a pressure relief valve is used to relieve excess pressure in Fig. 1 and col. 2, line 66 to col. 3, line 61.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the step of controlling the housing with a pressure relief valve of Bois into the method of Smith, Jr. to allow exhaust gas to escape from the

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housing when a predetermined pressure is attained, as suggested by Bois in col. 2, line 66 to col. 3, line 3.

8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith, Jr. in view of Bois.

Smith, Jr. does not the device having a relief valve for relieving an excessive pressure and/or a temperature controller for a temperature reduction.

Bois discloses a similar device wherein the housing has a relief valve (15) for relieving an excessive pressure in Fig. 1 and col. 2, line 66 to col. 3, line 61.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the pressure relief valve of Bois into the housing of Smith, Jr. to allow exhaust gas to escape from the housing when a predetermined pressure is attained, as suggested by Bois in col. 2, line 66 to col. 3, line 3.

9. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith, Jr. in view of Lim.

Smith, Jr. does not explicitly disclose a muffler being connected to the housing.

Lim discloses a similar device having a housing connected to a muffler in paragraph [0032].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the muffler of Lim into the device of Smith, Jr. to further attenuate the noise created by the exhaust gas.

Allowable Subject Matter

10. Claims 16, 17, 29, and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:

With regard to claim 16, the prior art made of record does not teach or fairly suggest the method of claim 1 wherein the filtering step (e) is carried out by forcing the exhaust through a plurality of chambers formed by a plurality of partitions protruding from an outer periphery toward a center of the inner filtering chamber.

With regard to claim 17, the prior art made of record does not teach or fairly suggest the method of claim 1 wherein the filtering step (e) is carried out by forcing the exhaust through a plurality of grids containing the plurality of filtering materials and removably inserted into the inner filtering chamber to form separated zones.

With regard to claim 29, the prior art made of record does not teach or fairly suggest the device of claim 22 further comprising a plurality of partitions protruding from

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an outer periphery toward a center of the inner filtering chamber and forming a plurality of chambers.

With regard to claim 30, the prior art made of record does not teach or fairly suggest the device of claim 22 further comprising a plurality of grids containing the plurality of filtering materials and removably inserted into the inner filtering chamber to form separated zones.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (571) 272-1157. The examiner can normally be reached on Monday - Friday (9:00 AM to 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.


Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-0987.

Jason M. Greene
Examiner
Art Unit 1724



jmg
January 24, 2004

DUANE SMITH
PRIMARY EXAMINER


1-25-04